ORDER NO. SD82112327C8

Service Manual

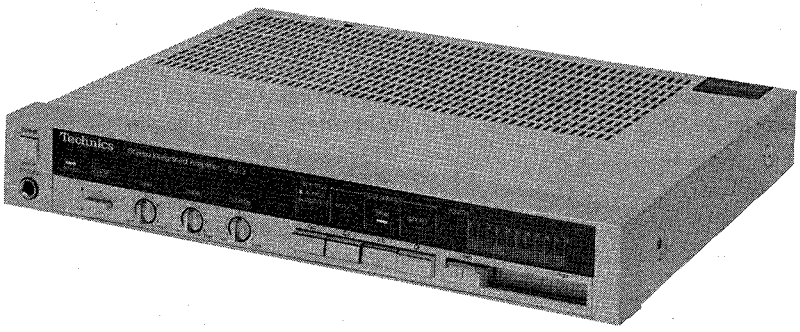
Stereo Integrated Amplifier

SU-3

[EX], [EK], [EF], [EB], [EH], [EW], [Ei], [XA], [XL]

SU-3 (K)

[EX], [EK], [EH], [EW], [XA]



* The cabinet and front panel are available in black color and silver types.
* The black type model is provided with (K) in the Service Manual.

Areas

* [EX] is available in Scandinavia.
* [EK] is available in United Kingdom.
* [EF] is available in France.
* [EB] is available in Belgium.
* [EH] is available in Holland.
* [EW] is available in Switzerland.
* [Ei] is available in Italy.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XL] is available in Australia.

Specifications

(Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz~20 kHz continuous power output	
both channels driven	2 × 18W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 20W (8Ω)
Total harmonic distortion	
rated power at 40 Hz~20 kHz	0.8% (8Ω)
rated power at 1 kHz	0.8% (8Ω)
half power at 40 Hz~20 kHz	0.3% (8Ω)
half power at 1 kHz	0.07% (8Ω)
−26 dB power at 1 kHz	0.2% (8Ω)
50 mW power at 1 kHz	0.2% (8Ω)
Intermodulation distortion	
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.8%
Power bandwidth	
both channels driven, −3 dB	10 Hz~25 kHz (8Ω)
Residual hum and noise	0.5 mV
Damping factor	27 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, AUX	150 mV/22kΩ
TAPE 1 REC/PLAY	150 mV/22kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (8Ω)	
PHONO	68 dB (IHF, A: 72 dB)
TUNER, AUX, TAPE	92 dB (IHF, A: 97 dB)
−26 dB power (8Ω)	
PHONO	67 dB
TUNER, AUX, TAPE	69 dB
50 mW power (8Ω)	
PHONO	67 dB
TUNER, AUX, TAPE	69 dB
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, AUX, TAPE	10 Hz~60 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Output voltage and impedance	
REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1.0 dB
Channel separation, AUX 1 kHz	45 dB
Headphones output level and impedance	360 mV/270Ω
Load impedance	
MAIN	8Ω~16Ω

■ GENERAL

Power consumption	93W
Power supply	AC 50 Hz/60 Hz, 240V (For United Kingdom and Australia) AC 50 Hz/60 Hz, 220V (For continental Europe) AC 50 Hz/60 Hz, 110V/120V/220V/240V (For others)
Dimensions (W×H×D)	315 × 50 × 248 mm (12-13/32" × 1-31/32" × 9-3/4")
Weight	3.1 kg (6.8 lb.)

Note:

Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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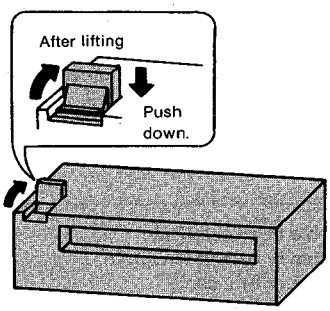
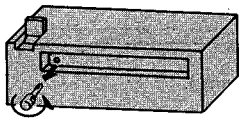
STANDARD CONNECTION METHOD WITH DIRECT CONNECTOR

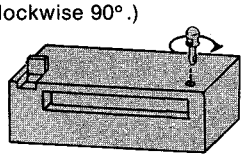
① Lift the direct connector on the tape deck. Push it straight down to lock it into place.



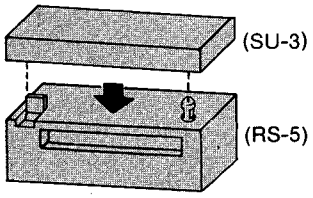
② Remove the stabilizing pin from the back panel. (Turn counterclockwise 90° and pull.)



③ Insert the pin into the top panel. (Push in and turn clockwise 90°.)



④ Lower the amplifier onto the tape deck. Line up the direct connector and stabilizing pin properly.

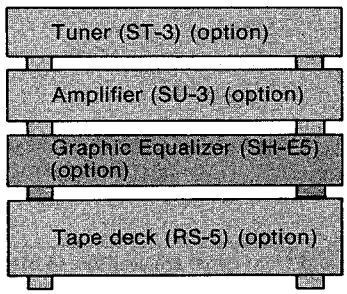


⑤ Connect the tuner to the amplifier the same way as in ① ~ ④.

⑥ Connect the turntable and speakers with their respective cords.

Notes:

1. When using the direct connectors, do not use pin cords.
2. When using the graphic equalizer (SH-E5), place it between the amplifier and the tape deck.



3. Position the units in a straight column to avoid twisting and breaking the direct connectors.

PROTECTION CIRCUITRY

The protection circuitry may have operated if eigher of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlined below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note: Once the protection circuit operates, the unit is not reset even when there is no abnormality. So, turn off the power supply and, about 60 sec. later, turn it on again.

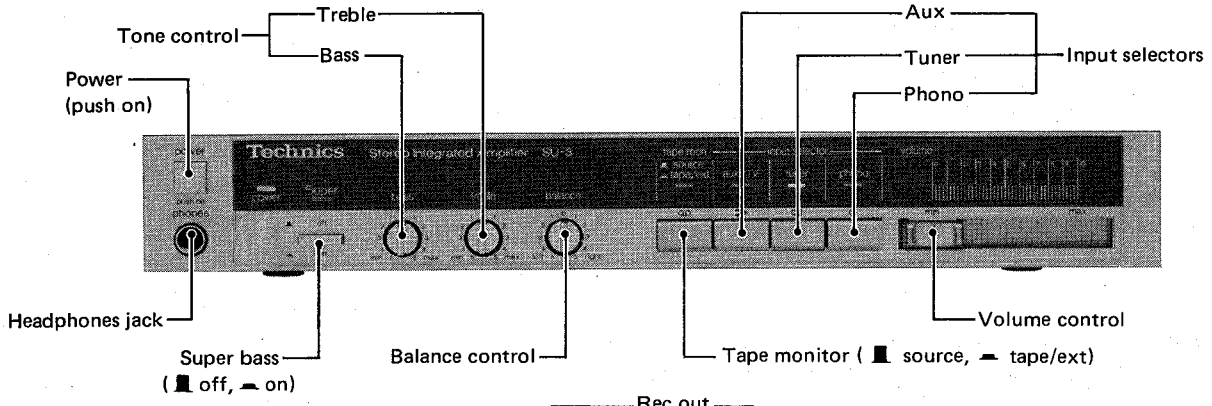
BEFORE REPAIR AND ADJUSTMENT

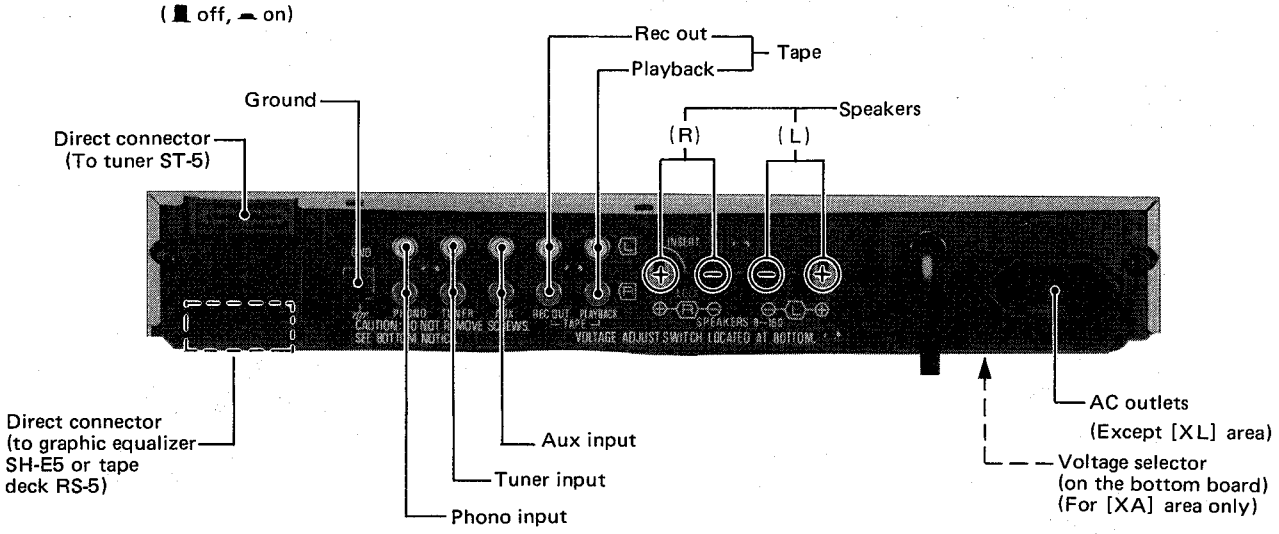
Turn off the power supply and short-circuit both ends of power supply condensers (C501, C502, 4700μF) at resistance (about 10Ω, 5W) in order to discharge the charged voltage. Avoid short-circuit with a screwdriver or the like, otherwise the transistors or diodes may break down.

Before turning on the power supply after completion of repair, slowly apply the primary voltage by using a voltage regulator to make sure that the current consumed is free of abnormality The current consumed at 60Hz/50Hz in no signal mode is shown below with respect to supply voltage 110/120V/220V/240V.

Power supply voltage		AC110V	AC120V	AC220V	AC240V
Current consumed	50 Hz	60~130mA	55~120mA	45~90mA	40~85mA
	60Hz	60~130mA	55~120mA	45~90mA	40~85mA

■ LOCATION OF CONTROLS





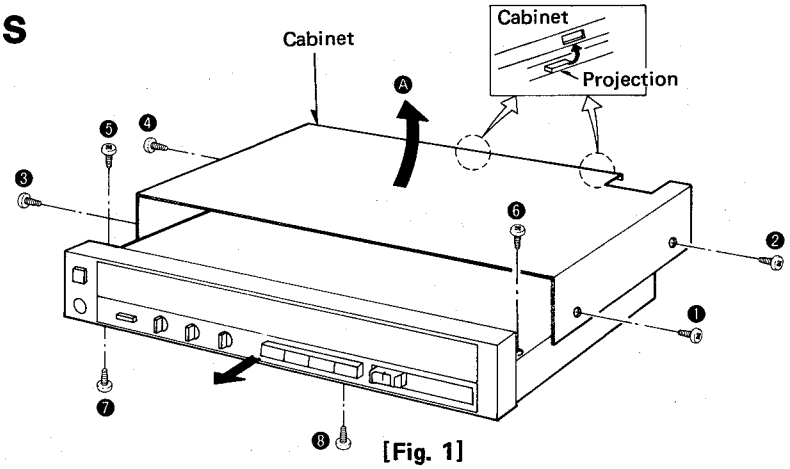
- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and the replacement parts list.

* 220V (50/60Hz) for continental Europe.
* 240V (50/60Hz) for United Kingdom and Australia.
* 110V/120V/220V/240V (50/60Hz) for other areas.
– [XA area] for other areas is provided with voltage selector .
* Phono input capacitance is about 150pF.

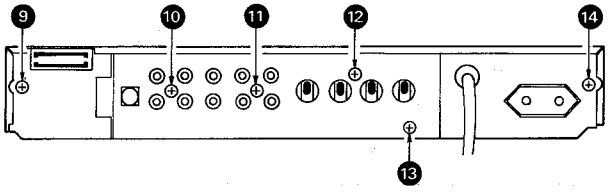
■ DISASSEMBLY INSTRUCTIONS

- **How to remove the cabinet and front panel**

(1) Remove the 4 setscrews (Fig. 1 : ❶ ~ ❹) of the cabinet.
(2) Release the cabinet from the two projections of the rear chassis, and then raise the cabinet in the direction of the arrow (Ⓐ) of Fig. 1.
(3) Remove the 4 setscrews (Fig. 1 : ❺ ~ ❽) of the front panel.
(4) Release the 2 claws from the bottom of the front panel by use of a screwdriver, and pull out the front panel.



[Fig. 1]



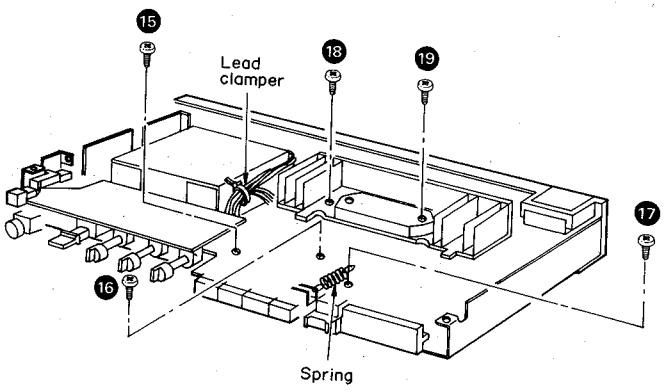
[Fig. 2]

- **How to remove the main circuit P. C. B.**

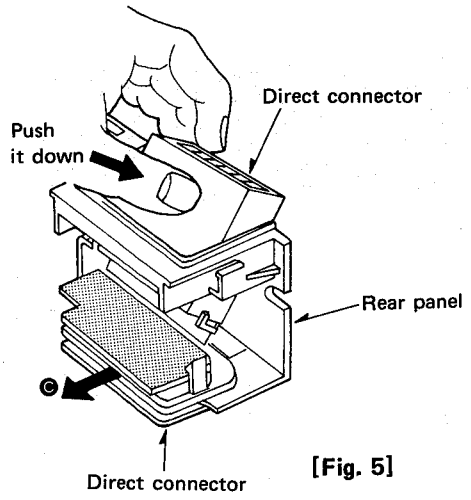
(1) Remove the cabinet.
(2) Remove the 6 setscrews (Fig. 2 : ❾ ~ ⓮) of the rear panel.
(3) Remove the 5 setscrews (Fig. 3 : ⓯ ~ ⓳) of the main circuit P. C. B. and cut off the power transformer lead clamper by use of nippers.
(4) Slightly shift the rear panel backward. Next, push the main circuit P. C. B. toward the power transformer and raise the main P. C. B. in the direction of the arrow (Fig. 4 : Ⓑ).

- **How to remove the direct connector**

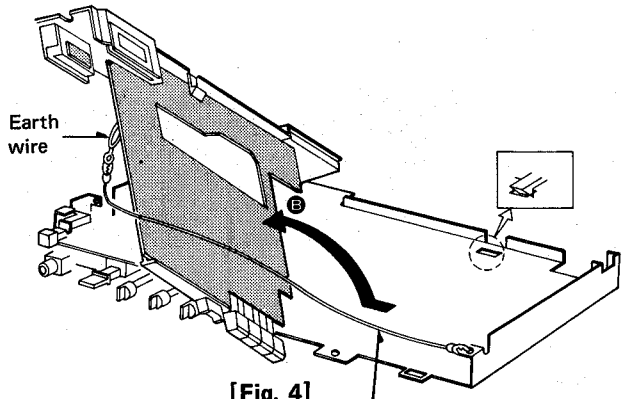
(tuner side)
(1) Remove the cabinet and main circuit P. C. B.
(2) Remove the direct connector (cassette deck side) in the direction of the arrow (Fig. 5 : Ⓒ).
(3) Push the direct connector (tuner side) down out of the frame as shown in Fig. 5.
(4) To set it up, follow the procedure reversely.



[Fig. 3]



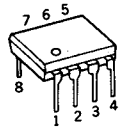
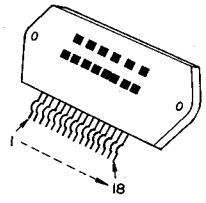
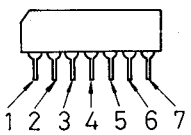
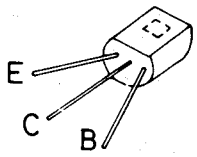
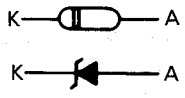
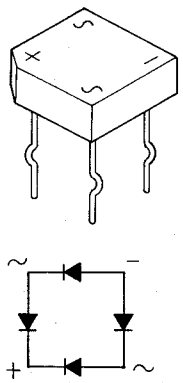
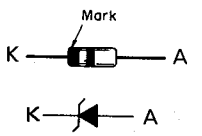
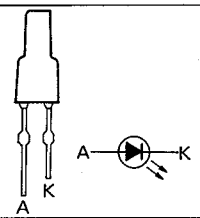
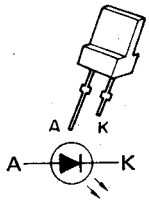
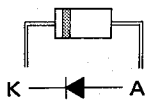
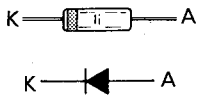
[Fig. 5]



[Fig. 4]

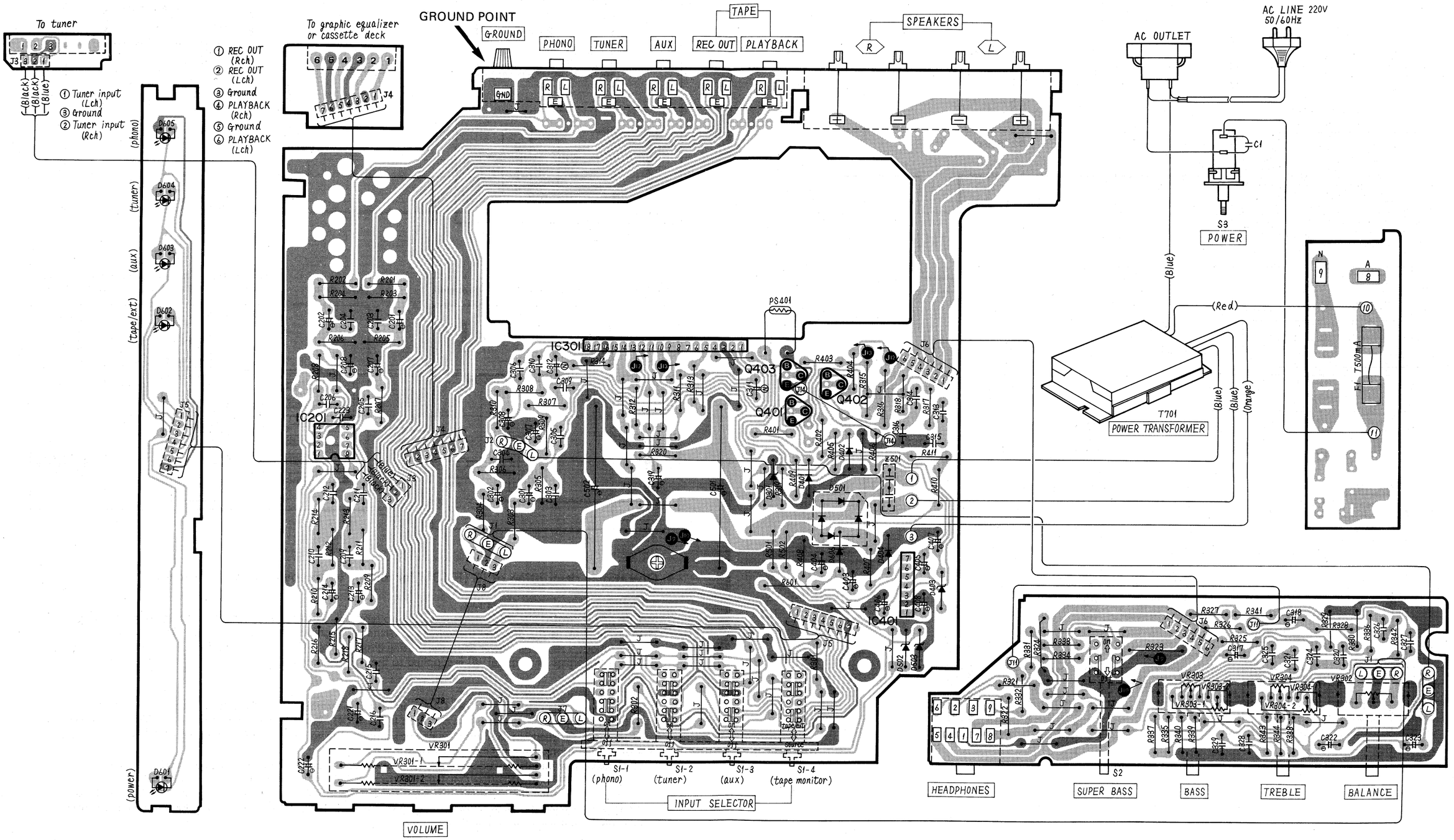
Note) When repairing the main P. C. B., connect the earth wire to the chassis with clip lead wire.

■ TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S

SVINJ4559DDM	SVIK4121-2ML	AN7072	2SA992, 2SA1015	SVDMZ□□□□
				
SVDS4VB20	**MA1150M**	**LN846RP, LN346GP**	**LN446YP**	**SVDSR1K2**
				
	MA150			
				

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

■ Ground (Earth) line



5

6

■ RESIS

Notes: 1.
2.
3.
4.
5.

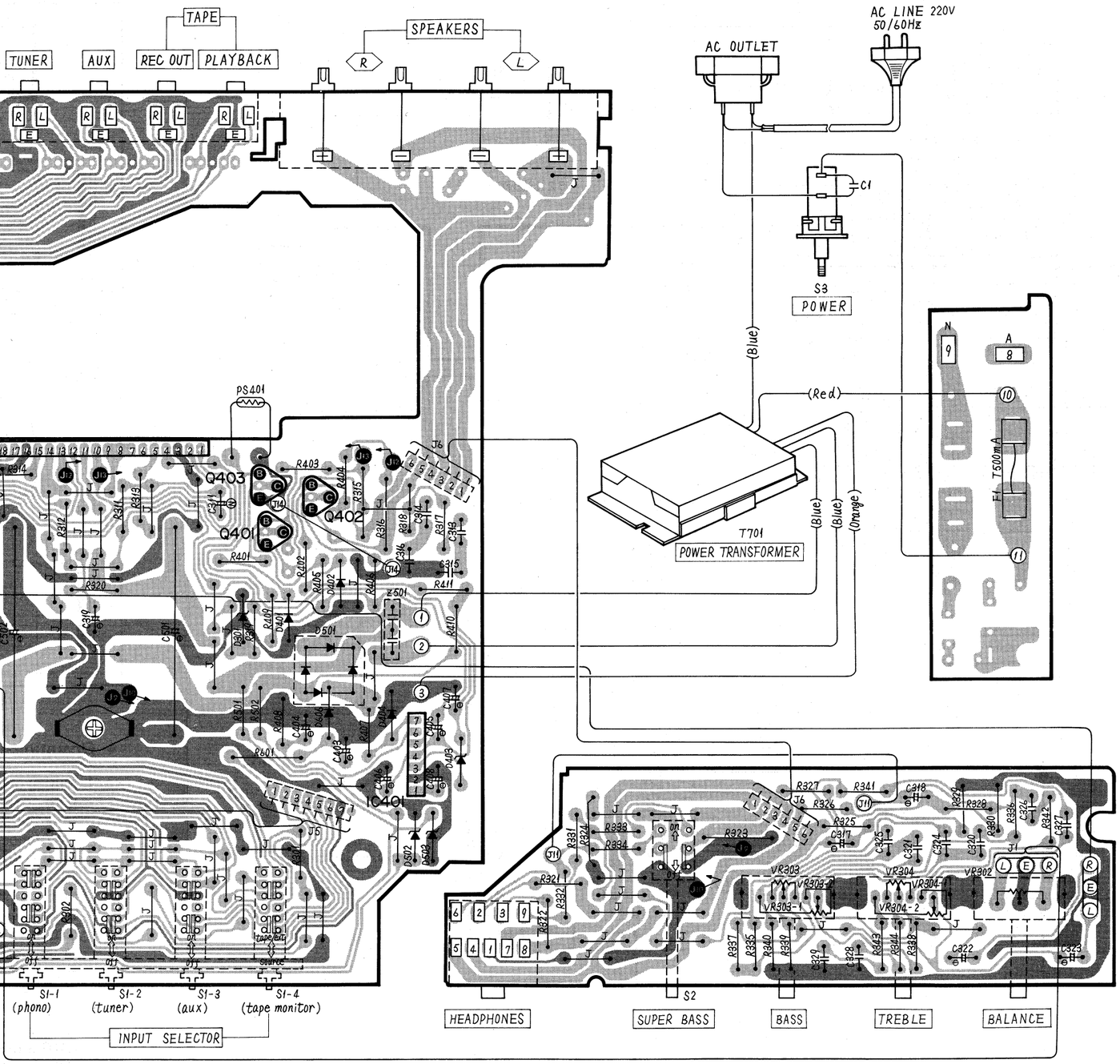
Numbe
Example
ERD
Type
ERG
Type

Numbe
Exampl
ECKD
Type
ECEA
Type

ECEA	
ECEB	
ECEA	
ECCD	
ECKD	
ECQM	
ECQE	

Ref. No.	P
RESISTORS	
R201, 202 S	ERD
R203, 204 S	ERD
R205, 206 S	ERD
R207, 208 S	ERD
R209, 210 S	ERD
R211, 212 S	ERD
R213, 214 S	ERD
R215, 216 S	ERD
R217, 218 S	ERD
R301, 302 S	ERD
R303, 304 S	ERD
R305, 306 S	ERD
R307, 308 S	ERD
R309, 310 S	ERD
R311, 312 ⚠S	ERD
R313, 314 ⚠S	ERD
R315, 316 S	ERX
R317, 318 ⚠S	ERD
R319 ⚠	ERD
R320 ⚠S	ERD
R321, 322 ⚠	ERD

Ground (Earth) line



■ RESISTORS & CAPACITORS

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. The "**S**" mark is service standard parts and may differ from production parts.
4. The unit of resistance is Ω (ohm). K = 1000Ω, M = 1000kΩ.
5. The unit of capacitance is μF (microfarad). P = 10^{-6} μF.

Areas

- * [EX] is available in Scandinavia.
- * [EK] is available in United Kingdom.
- * [EF] is available in France.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XL] is available in Australia.
- * [EW] is available in Switzerland.

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value
ERG	2	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD : Carbon	25 : 1/4W	J : ± 5%
ERG : Metal Oxide	1 : 1W	
ERX : Metal Film	S1 : 1/2W	

Numbering System of Capacitor

Example

ECKD	1H	103	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Capacitor Type	Voltage: ECEA Type	Voltage: Others	Tolerance
ECEA : Electrolytic	1A : 10V	1H : 50V DC	C : ± 0.25pF
ECEB : Electrolytic	1C : 16V	2A : 250VAC	K : ± 10%
ECEA...N : Non Polar Electrolytic	1E : 25V	KC : 400VAC	M : ± 20%
ECCD : Ceramic	1H : 50V		Z : + 80%, –20%
ECKD : Ceramic	1V : 35V		P : +100%, –0%
ECQM : Polyester	25 : 25V		
ECQE : Polyester	50 : 50V		

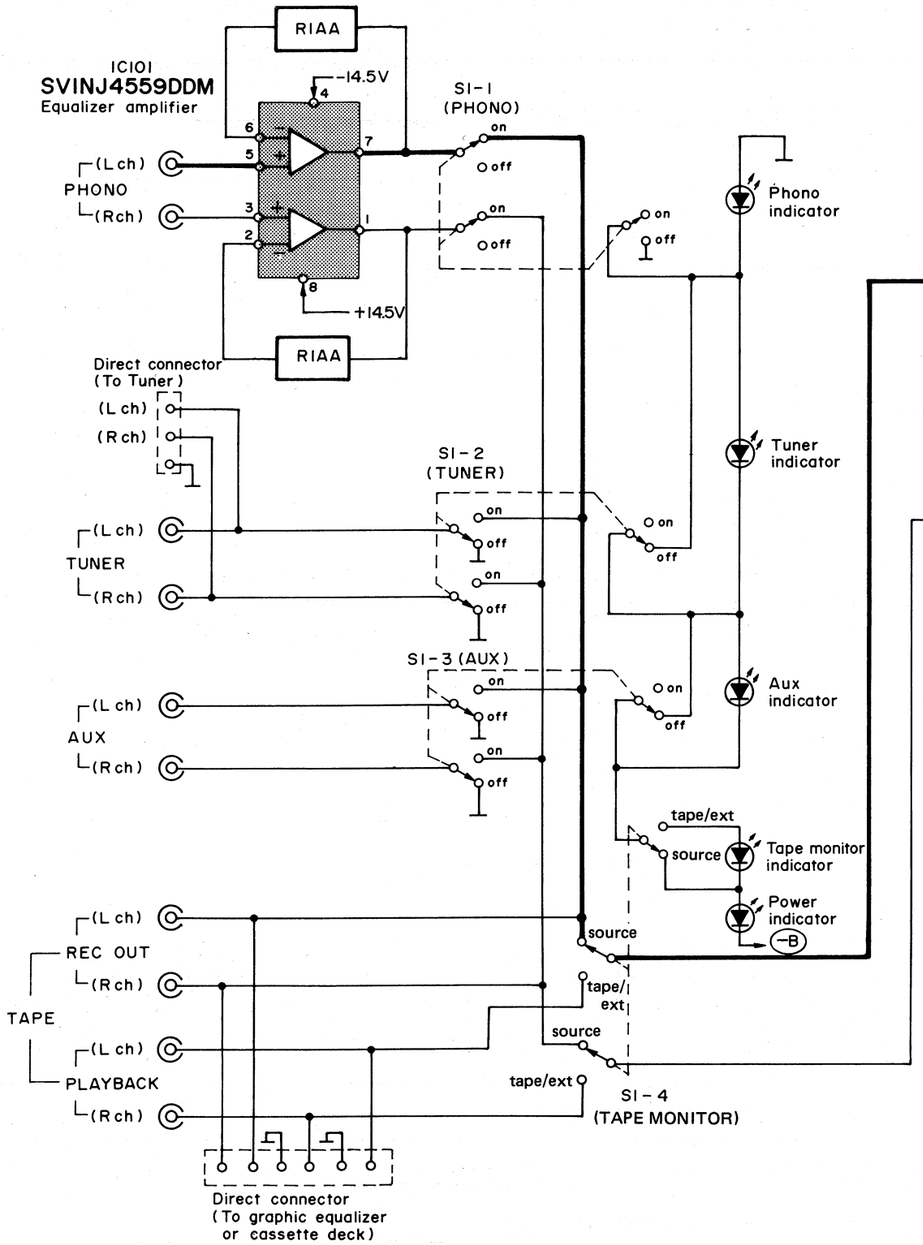
Ref. No.	Part No.	Value
RESISTORS		
R201, 202 S	ERD25FJ391	390
R203, 204 S	ERD25TJ224	220K
R205, 206 S	ERD25TJ563	56K
R207, 208 S	ERD25FJ271	270
R209, 210 S	ERD25FJ680	68
R211, 212 S	ERD25TJ184	180K
R213, 214 S	ERD25TJ123	12K
R215, 216 S	ERD25TJ104	100K
R217, 218 S	ERD25FJ122	1.2K
R301, 302 S	ERD25FJ272	2.7K
R303, 304 S	ERD25FJ102	1K
R305, 306 S	ERD25TJ393	39K
R307, 308 S	ERD25TJ273	27K
R309, 310 S	ERD25TJ393	39K
R311, 312 ⚠S	ERD25FJ152	1.5K
R313, 314 ⚠S	ERD25FJ152	1.5K
R315, 316 S	ERX1ANJR22	0.22
R317, 318 ⚠S	ERD25FJ120	12
R319 ⚠	ERDS1FJ102	1K
R320 ⚠S	ERD25FJ101	100
R321, 322 ⚠	ERDS1FJ271	270

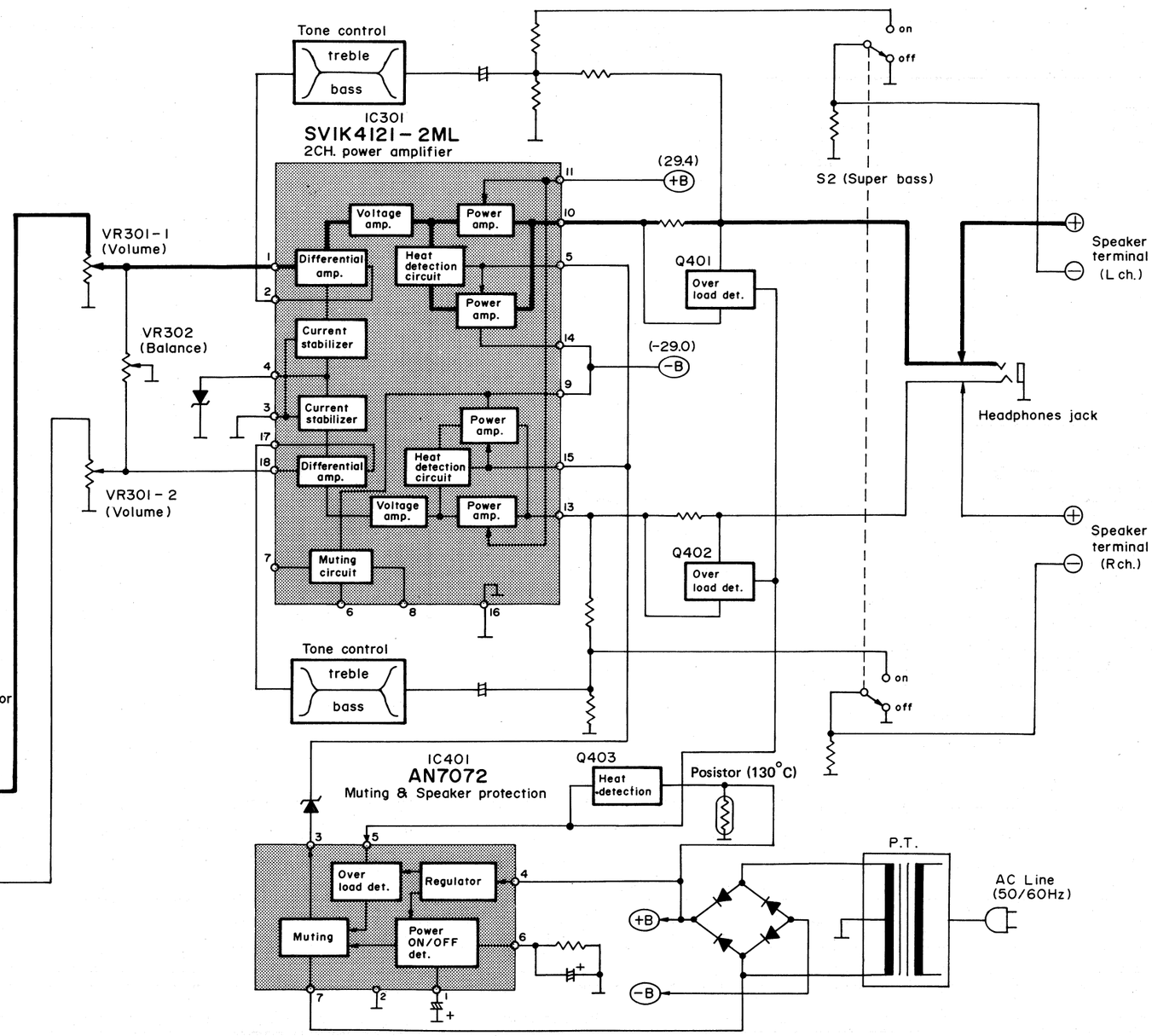
Ref. No.	Part No.	Value
R323, 324 S	ERX1ANJR22	0.22
R325, 326 S	ERD25FJ122	1.2K
R327, 328 S	ERD25TJ153	15K
R329, 330 ⚠S	ERD25FJ820	82
R331, 332 S	ERD25TJ333	33K
R333, 334 S	ERD25FJ681	680
R335, 336 S	ERD25TJ223	22K
R337, 338 S	ERD25TJ154	150K
R339, 340 S	ERD25FJ472	4.7K
R341, 342 S	ERD25FJ472	4.7K
R343, 344 S	ERD25FJ102	1K
R401, 402 S	ERD25TJ153	15K
R403, 404 S	ERD25FJ331	330
R405, 406 S	ERD25FJ103	10K
R407, 408 S	ERD25TJ393	39K
R409 S	ERD25TJ104	100K
R410 ⚠S	ERD25FJ330	33
R411 S	ERD25TJ333	33K
R501, 502 ⚠	ERDS1FJ102	1K
R601 S	ERG1ANJ821	820

Ref. No.	Part No.	Value
CAPACITORS		
C1 ⚠	ECKDKC103PF	0.01
C201, 202 S	ECEA50Z3R3	3.3
C203, 204 S	ECCD1H101K	100P
C205, 206 S	ECKD1H471KB	470P
C207, 208 S	ECEA1CS330	33
C209, 210 S	ECQM1H223JZ	0.022
C211, 212 S	ECQM1H682JZ	0.0068
C213, 214 S	ECEA50Z1	1
C215, 216 S	ECKD1H471KB	470P
C221, 222 S	ECEA1HS100	10
C223 S	ECKD1H103ZF	0.01
C301, 302 S	ECEA50Z2R2	2.2
C303, 304 S	ECCD1H101K	100P
C305, 306 S	ECCD1H151K	150P
C307, 308 S	ECEA1ES220	22
C309, 310 S	ECCD1H030CC	3P
C311 ⚠	ECEA1EN100S	10
C312 ⚠	ECEA1EN100S	10
C313, 314 S	ECKD1H223ZF	0.022
C315, 316 S	ECKD1H223ZF	0.022
C317, 318 S	ECEA50Z1	1

Ref. No.	Part No.	Value
C319 S	ECEA1VS101	100
C320, 321 S	ECQM1H183JZ	0.018
C322, 323 S	ECEA1HS100	10
C324, 325 S	ECQM1H823JZ	0.082
C326, 327 S	ECQM1H182JZ	0.0018
C328, 329 S	ECQM1H183JZ	0.018
C403 S	ECEA1VS330	33
C404 S	ECEA25Z4R7	4.7
C405 S	ECEA50Z3R3	3.3
C406 S	ECEA1VS330	33
C407 S	ECEA50Z1	1
C408	ECEA1AS101	100
C501, 502	ECEB1VS472	4700
C707 ⚠ [EF] only	ECQE2A473MW	0.047

■ BLOCK DIAGRAM

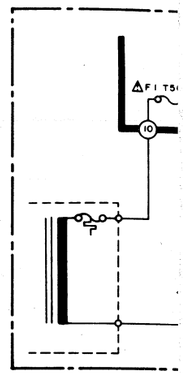




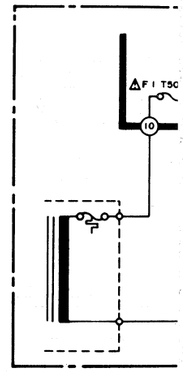
■ CIRCUITS

• Power source

[EF] area

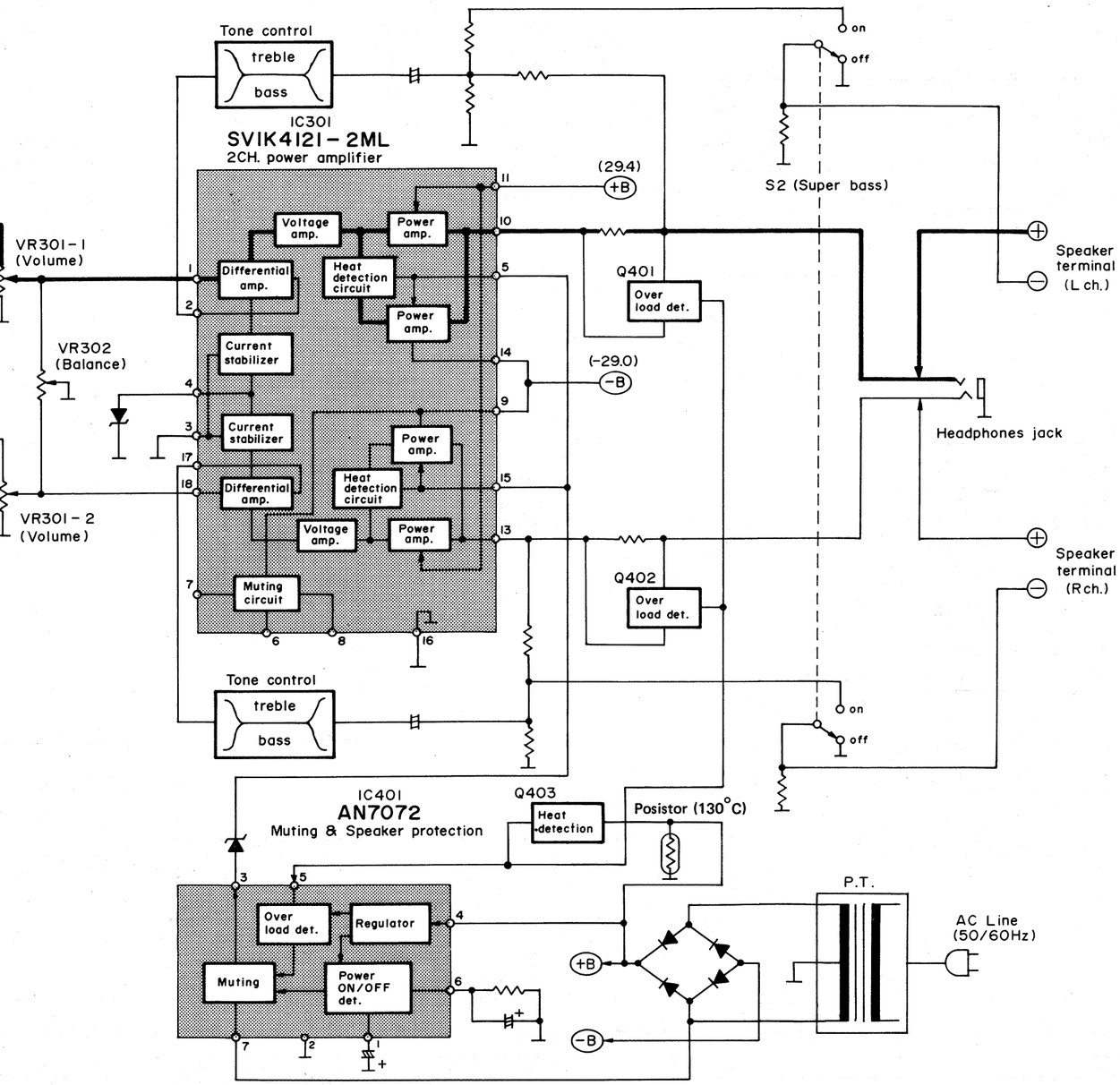


[EW] area



• Operational

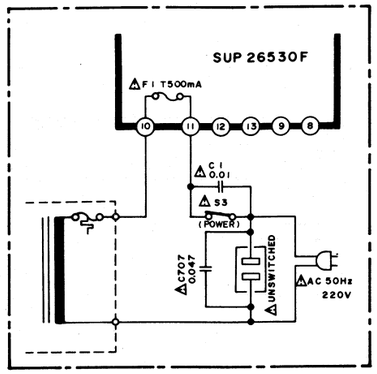
1. Muting opera
With power
to terminal
−4V (about
③. The vol
IC.
2. Muting opera
With power
C408 to dro
of terminal
3. Muting opera
With speaker
voltage rise.
terminal ⑤
C408 is disch
ON and the



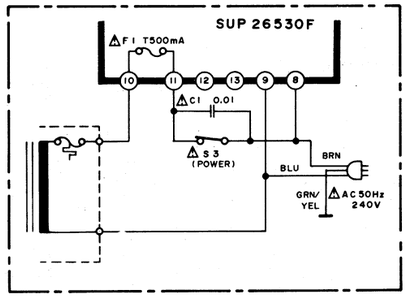
■ CIRCUITS TO BE CHANGED AND THE AREAS

• Power source circuit

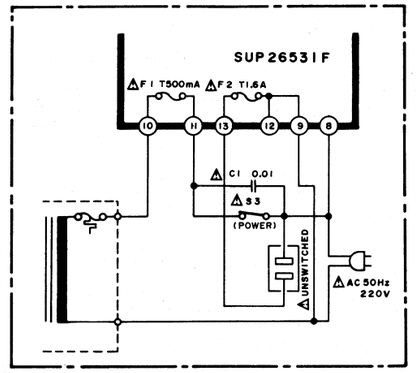
[EF] area [EF] is available in France.



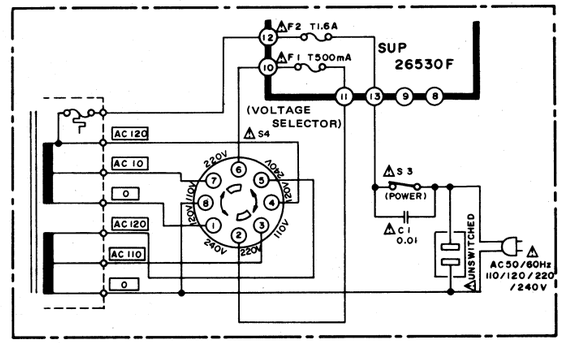
[XL] area [XL] is available in Australia.



[EW] area [EW] is available in Switzerland.



[XA] area [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.



• Operational description of IC (IC401) for muting (with power on/off, overload)

1. Muting operation with power ON.
   With power turned ON, AC voltage is applied to terminal ⑦ of IC401. Then, condenser C408 connected to terminal ① is charged, and the voltage of terminal ① gradually rises. When the voltage reaches about −4V (about 5 sec. after power ON), the muting circuit turns off, and then −30.6V is generated at terminal ③. The voltage of terminal ③ is supplied to the voltage amplifier circuit of IC301, thus operating power IC.
2. Muting operation with power OFF.
   With power turned OFF, condenser C408 connected to terminal ① is discharged, causing the voltage of C408 to drop, and then the muting circuit in IC turns ON. With the muting circuit turned ON, the voltage of terminal ③ becomes 0V, and then power supply to the voltage amplifier circuit of IC301 is discontinued.
3. Muting operation with power amplifier over-loaded.
   With speaker terminals short-circuited, a large quantity of current flows into R315 (R316), causing the voltage rise. The voltage causes Q401 (Q402) to turn ON, and then overload detecting signal is applied to terminal ⑤. When the potential difference between terminals ④ and ⑤ reaches about 0.7V, condenser C408 is discharged the same as for muting operation with power OFF. As a result, the muting circuit turns ON and the voltage of terminal ③ becomes 0V.

SUP26530A

(L ch) PHONO

(R ch) PHONO

GND

R201 390

C201 50V3.3

R203 220K

R205 56K

C203 100P

C205 470P

C207 0.033

R207 270

R209 68

C209 0.022

R211 180K

C211 0.0068

R213 12K

C213 50V1

R215 100K

C215 470P

R217 1.2K

C221 16V10

C222

Gain 35.5dB

IC201
SVINJ4559DDM
EQUALIZER

R202

C202

C206

R210

R212

R214

C214

R218

R204

R206

C204

C223 0.01

C208

R208

C210

C212

R216

C216

Equalizer circuit

(R ch) 1
(L ch) 2
3
4
5
6
J3

DIRECT CONNECTOR TO TUNER

(L ch) TUNER
AUX
REC OUT
TAPE PLAYBACK

(R ch) TUNER
AUX
REC OUT
TAPE PLAYBACK

S1-1 (PHONO)
S1-2 (TUNER)
S1-3 (AUX)
S1-4 (TAPE MONITOR)
off ↔ on
source ↔ tape/ext

15.4

DIRECT CONNECTOR TO TAPE DECK

J4

REC OUT (R ch)
REC OUT (L ch)
PLAYBACK (R ch)
PLAYBACK (L ch)

SUP26530D

D606 SVDSRIK2 D606

R601 470 1W 820

C603 35V33

J5

D605 D604 D603 D602 D601

Phono Tuner Aux Tape Power

D601 LN846RP INDICATOR

D602 LN446YP INDICATOR

D603 ~ 605 LN346GP INDICATOR

HEADPHONES

S2 (SUPER BASS)

R323 0.22 2W

R321 1/2 470

R322 470

R324

J6

L ch
SPEAKERS
R ch

J10 J9

J2

J1

R331 33K

R326 1.2K

R325 1.2K

C323 16V10

C317 50V1

R341 4.7K

C321 0.018

R335 22K

R327 15K

R333 680

C327 0.0018

R345 1K

VR304 100KC (TREBLE)

VR303-1 (BASS) 100KC

C325 0.082

R339 4.7K

C329 0.018

C322

R332

C318

R328

R330

C326

R342

C320

R336

R334

VR304-2 (TREBLE)

R338

VR303-2 (BASS)

R344

C324

C328

R340

TREBLE CONTROL

Tone control circuit

SUP26530B

BALANCE CONTROL

VR302 100KA (BALANCE)

R301 2.7K

VR301-1 100KA

VR301-2 (VOLUME)

R302

VOLUME CONTROL

IC301
SVIK4121-2ML
2CH POWER AMP

1	0	7	-29.0	13	0.1
2	0	8	-29.0	14	-29.0
3	0.1	9	-29.0	15	-1.3
4	-8.6	10	0	16	0.1
5	-1.3	11	29.4	17	0
6	6.2	12	28.7	18	0

D301
SVDMZ309A
9V ZENER

Power amplifier circuit

D401,402
MA150

R317 1/4 12

C313 0.022

C315 0.022

C307 16V22

R307 27K

R309 39K

R315 1W 0.22

R403 330

C309 3P

D301

R401 15K

Q401

D401

R319 1/2 1K

C301 50V2.2

R305 39K

R303 1K

C303 100P

C305 150P

C311 25V10

R311 1/4 15K

R313 1/4 15K

IC301

D404

R405 10K

C306

C304

R314

C312

R320 1/4 100

R406

R306

R312

C302

R304

C308

C319 35V100

R310

R308

R404

Q402

D402

C310

R316

R318

C316

C314

D502 D503

D502, 503
MA1150M

D501
SVDS4VB20
RECTIFIER

R502 1/2 1K

R501

C502

C501 35V4700

D501

Z501 0.01+2

T701

AC 21V

AC 21V

BLU

BLU

RED

BLU

ORN

F1 T500mA

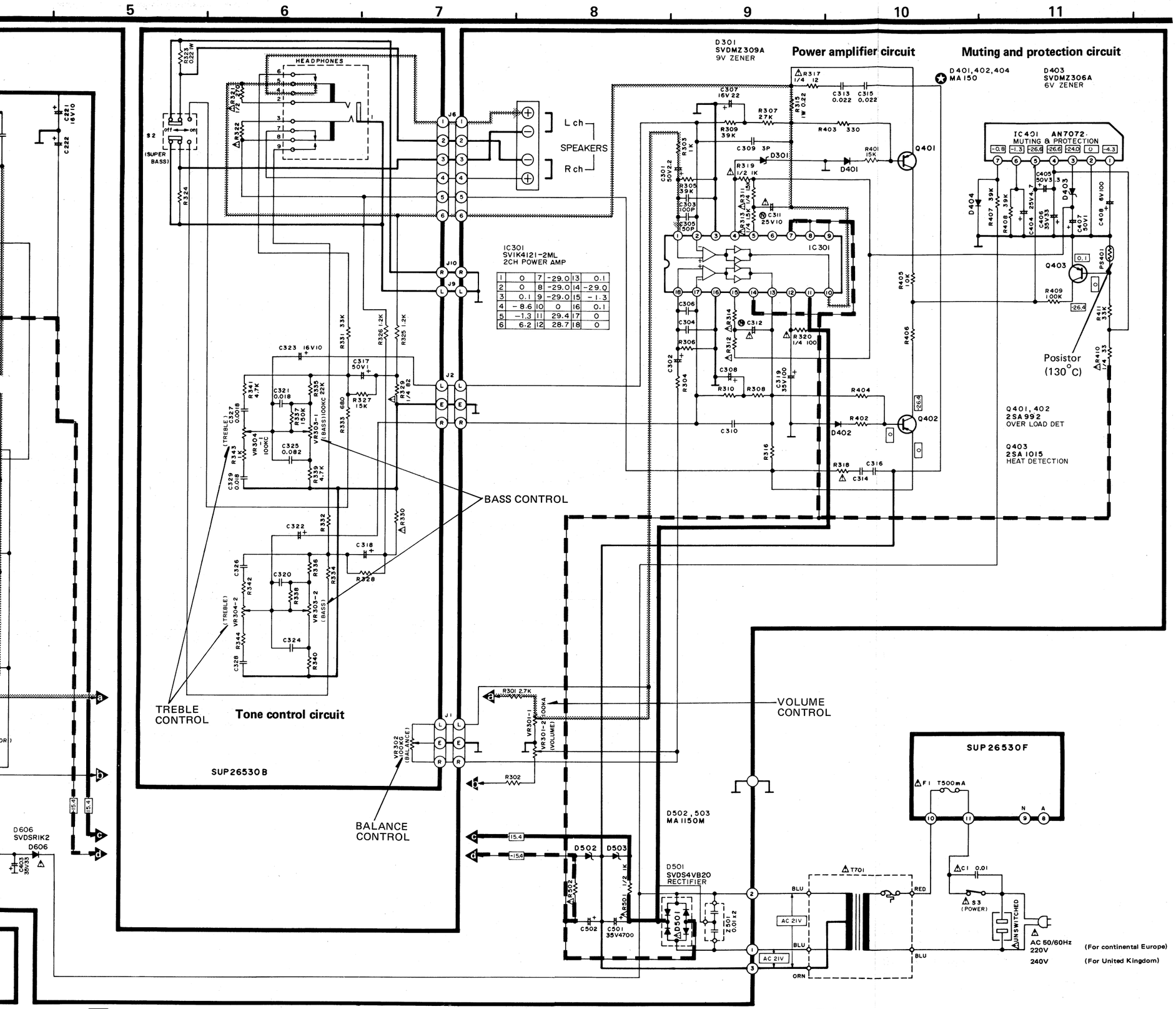
C1 0.

S3 (POWE

SUP

11

12



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

- **The part No. of transistors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. with ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.**

- This is the basic circuit diagram (For continental Europe) of this unit. Note that part of the circuit is subject to change depending on the areas.
- Regarding the circuits to be changed in the basic circuit diagram (For continental Europe) and related areas [EF], [XL], [XA] and [EW], refer to "CIRCUITS TO BE CHANGED AND THE AREAS" on page 10.

Notes:

1. **S1–1 ~ S1–3** : Input selector switch in "phono" position. (**S1–1** : phono **S1–2** : tuner **S1–3** : aux)
2. **S1–4** : Tape monitor switch in "source" position. source ⟷ tape/ext.
3. **S2** : Super bass switch in "off" position.
4. **S3** : Power source switch in "on" position.
5. **S4 [XA] area** : Voltage selector switch in "**110V**" position. 120V ⟷ 110V ⟷ 220V ⟷ 240V
6. The headphone jack switch is being short-circuited. (With the headphone plug not inserted)
7. Important safety notice: Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
8. ▭ indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with the ground point taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester. (high tap)
9. ▒▒▒ Phono signal lines
10. ▬▬ Positive (+B) voltage lines
11. ▬▬▶ Negative (−B) voltage lines

■ REPLACEMENT PARTS LIST

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. [K] —marked parts are used for black only, while ○ —marked parts are for silver type only.
4. Part other than [K] — and ○—marked are used for both black and silver type.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The "**S**" mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity pre set.

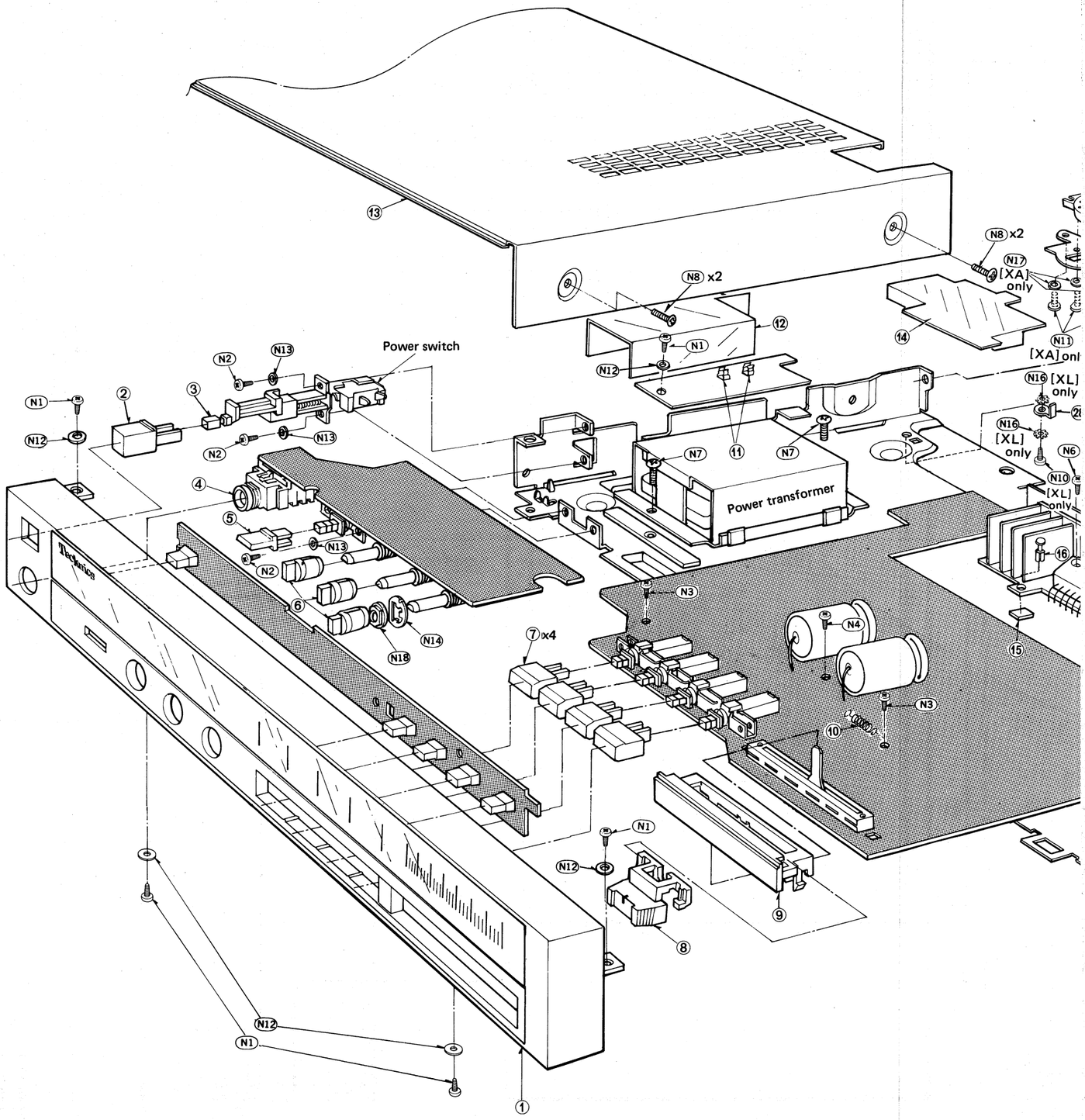
Black type model No. : SU-3 (K)

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC201	SVINJ4559DDM	Equalizer Amp.
IC301	SVIK4121–2ML	2CH. Power Amp.
IC401	AN7072	Muting and Speaker Protection
TRANSISTORS		
Q401, 402	2SA992	Over Load Det.
Q403	2SA1015–Y	Switching
DIODES		
D301	SVDMZ309A	9V, Zener
D401, 402, 404 S	MA162A	Switching
D403	SVDMZ306A	6V, Zener
D501 ⚠	SVDS4VB20	Rectifier
D502, 503	MA1150M	15V, Zener
D601	LN846RP	L.E.D. Power
D602	LN446YP	L.E.D. Tape
D603~605	LN346GP	L.E.D. Input Selector (Phono, Tuner, Aux)
D606 ⚠S	SVDSR1K2	Rectifier
TRANSFORMERS		
T701 [EX, EW, ⚠ EF, EB, EH, EI]	SLT4F11–W	Power Source
T701 [EK, XL] ⚠	SLT4F13–W	Power Source
T701 [XA] ⚠	SLT4F15–1W	Power Source
VARIABLE RESISTORS		
VR301	EVBP1CH15A15	Volume Control, 100kΩ (A)
VR302	EWHF5AF25G15	Balance Control, 100kΩ (G)
VR303, 304	EWCSWA006C15	Tone Control, 100kΩ (G)
FUSES		
F1 ⚠	XBA2C05TRO	250V, T500mA
F2 [EW] only ⚠	XBA2C16TRO	250V, T1.6A
F2 [XA] only ⚠	XBA2C10TRO	250V, T1A
COMPONENT COMBINATIONS		
Z501	SXRFS203ZSM	(0.01μF)×2
SWITCHES		
S1	SSH451	Input Selector
S2	SSH1047	Super Bass Switch
S3 ⚠	SSH1057	Power Source
S4 [XA] only ⚠	ESE37200	Voltage Selector
POSISTOR		
PS401	SRPBA47101	Heat Detection (130°C)

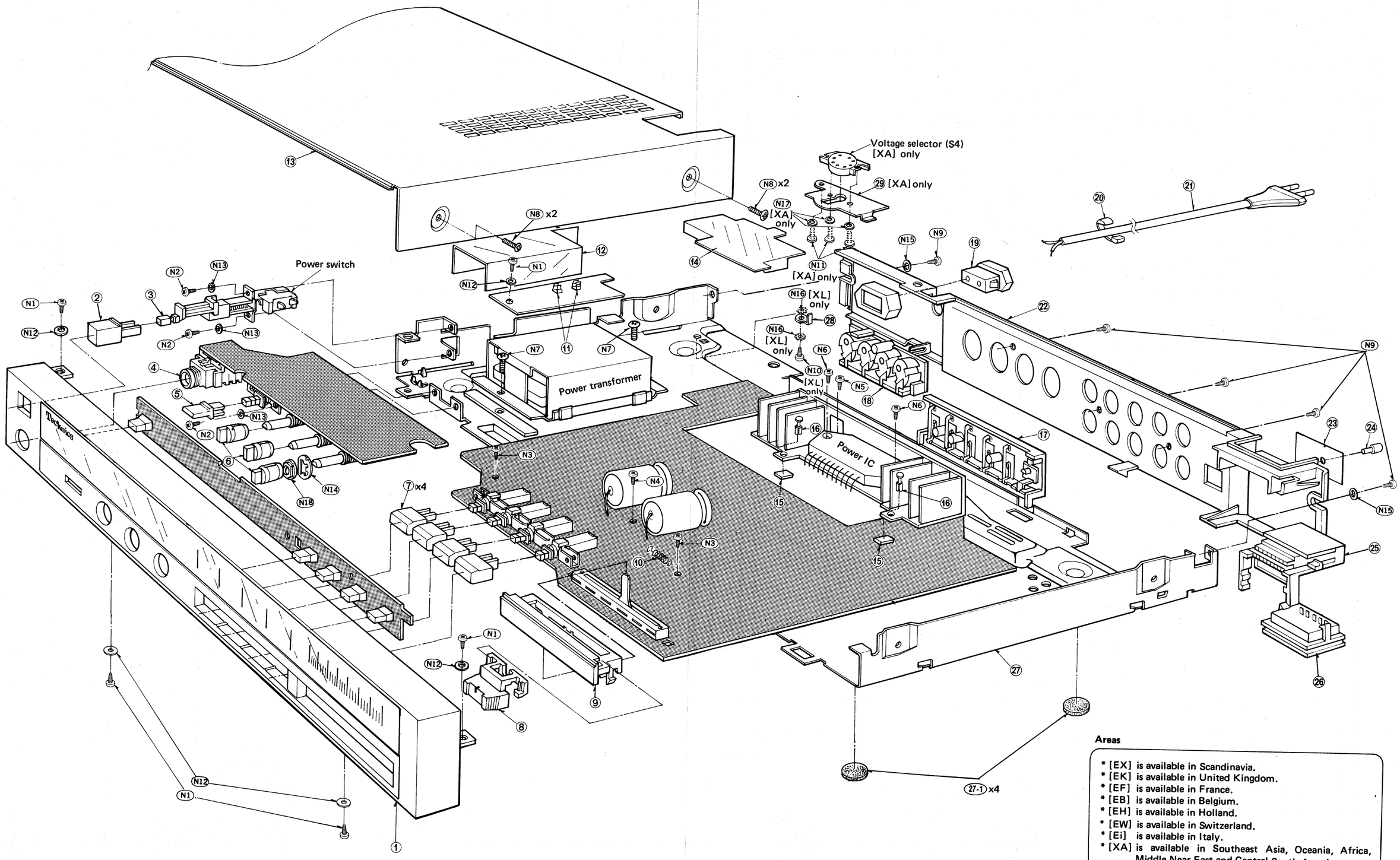
Ref. No.	Part No.	Description & Pcs
CABINET and CHASSIS PARTS		
1 ○	SGWU3E	Front Panel Ass'y (Silver) (1)
1 [K]	SGWU3KE	Front Panel Ass'y (Black) (1)
2	SBC489	Button, Power Switch (1)
3	SUB115–1	Connection Rod, Power Switch (1)
4	SJJ71F	Jack, Headphone (1)
5	SBC315–3	Button, Super Bass (1)
6 ○	SBN1085–4	Knob, Bass, Treble, Balance (3)
6 [K]	SBN1085–6	Knob, Bass, Treble Balance (3)
7 ○	SBC529	Button, Tape mon, Input Selector (4)
7 [K]	SBC529–1	Button, Tape mon, Input Selector (4)
8 ○	SBD67	Knob, Volume (1)
8 [K]	SBD67–1	Knob, Volume (1)
9 ○	SGX7409	Ornament, Volume (1)
9 [K]	SGX7409–1	Ornament, Volume (1)
10	SDSA4121	Spring (1)
11	SJT347	Holder, Fuse (2)
11 [EW, XA] only	SJT347	Holder, Fuse (4)
12	SMX721	Insulation Plate (1)
13 ○	SKC1071S3	Cabinet (Silver) (1)
13 [K]	SKC1071BB3	Cabinet (Black) (1)
14	SMX695–1	Insulation Plate (1)
15	SHR5231	Spacer (2)
16	SHR413	Lock Pin (2)
17	SJF3055N	Terminal Board, Input (1)
18	SJF4437	Terminal Board, Speaker (1)
19 ⚠	SJS9225	Socket, AC Outlet (1)
19 [EK] ⚠ only	SJS9227	Socket, AC Outlet (1)
20	SHR127	Bushing, AC Cord (1)
20 [EK] only	SHR129	Bushing, AC Cord (1)
20 [XL] only	SHR131	Bushing, AC Cord (1)
21 ⚠S	SJA88	AC Cord (1)
21 ⚠S [EK] only	QFC1205M	AC Cord (1)
21 ⚠S [XL] only	QFC1207MA	AC Cord (1)
22	SGP3390–1Z	Rear Panel (1)
22 [EK] only	SGP3390–2Z	Rear Panel (1)
22 [XL] only	SGP3390–3Z	Rear Panel (1)
22 [XA] only	SGP3390–1Y	Rear Panel (1)
23	SQT4891	Caution Sheet (1)
24	SHE135	Lock Pin (1)
25	SJS9607–1	Connector (1)
26	SJS9605	Connector (1)
27 [EX] only	SKUU3E	Bottom Board Ass'y (1)
27 [EK] only	SKUU3K	Bottom Board Ass'y (1)
27 [EW, EF, EB, EH, EI] only	SKUU3F	Bottom Board Ass'y (1)
27 [XA] only	SKUU3X	Bottom Board Ass'y (1)
27 [XL] only	SKUU3L	Bottom Board Ass'y (1)
27–1	SKL245–2	Foot (4)
28 [XL] only	RJT202B	Terminal (1)
29 [XA] only	SMN1863	Bracket, Voltage Selector

Ref. No.	Part No.	Description & Pcs
SCREWS		
N1 S	XTN3+8B	Tapping, ⊕3×8 (5)
N2 S	XSN3+6S	⊕3×6 (3)
N3 S	XTB3+8BFN	Tapping, ⊕3×8 (2)
N4	XTBS3+8BFZ1	Tapping with Detent (1)
N5 S	XTB3+10BFZ	Tapping, ⊕3×10 (1)
N6 S	XTB3+20BFN	Tapping, ⊕3×20 (2)
N7 S	XTB4+8BFN	Tapping, ⊕4×8 (2)
N8 ○	SNE2095–2	Tapping (Silver) (4)
N8 [K]	SNE2095–3	Tapping (Black) (4)
N9 S	XTN3+10BFZ	Tapping, ⊕3×10 (6)
N10 S [XL] only	XTN3+8BFZ	Tapping, ⊕3×8 (1)
N11 S [XA] only	XSN3+6S	⊕3×6 (3)
WASHERS		
N12 S	XWG3	Plain, φ3 (5)
N13 S	XWA3	Spring, φ3 (3)
N14	SNE91	(1)
N15 S	XWG3FZ	Plain, φ3 (2)
N16 S [XL] only	XWC3B	External Tooted Lock, φ3 (2)
N17 S [XA] only	XWA3	Spring, φ3 (3)
NUT		
N18	SNE4021	(1)
ACCESSORIES		
A1 ⚠ [XA] only	SJP5213–1	Plug Adaptor (1)
A2 ⚠ [EK] only	SJP5219	Plug Adaptor (1)
A3 [EX, EW, EK, EF, EB, EH, XA]	SQF11449	Instruction Book (1)
A3 [EI] only	SQF11453	Instruction Book (1)
A3 [XL] only	SQF11455	Instruction Book (1)
PACKING PARTS		
P1 ○	SPP691–1	Polyethylene Bag (1)
P1 [K]	SPP713	Polyethylene Bag (1)
P2	SPS3897	Pad, Front (1)
P2 [XL] only	SPS3897–1	Pad, Front (1)
P3	SPS3899	Pad, Rear (1)
P3 [XL] only	SPS3899–1	Pad, Rear (1)
P4 ○ [EF] only	SPG4199	Carton Box (Silver) (1)
P4 [K]	SPG4201	Carton Box (Silver) (1)
P4 ○ [XL] only	SPG4203	Carton Box (Silver) (1)
P4 [K]	SPG4205	Carton Box (Black) (1)

■ EXPLODED VIEW



■ EXPLODED VIEW



Areas

* [EX] is available in Scandinavia.
* [EK] is available in United Kingdom.
* [EF] is available in France.
* [EB] is available in Belgium.
* [EH] is available in Holland.
* [EW] is available in Switzerland.
* [Ei] is available in Italy.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XL] is available in Australia.

Printed in Japan
821107000⊗YK/IM

ll areas.

el No. : SU-3 (K)

Description & Pcs	
Bottom Board Ass'y	(1)
Bottom Board Ass'y	(1)
Foot	(4)
Terminal	(1)
Bracket, Voltage Selector	
Tapping, ⊕3x8	(5)
⊕3x6	(3)
Tapping, ⊕3x8	(2)
Tapping with Detent	(1)
Tapping, ⊕3x10	(1)
Tapping, ⊕3x20	(2)
Tapping, ⊕4x8	(2)
Tapping (Silver)	(4)
Tapping (Black)	(4)
Tapping, ⊕3x10	(6)
Tapping, ⊕3x8	(1)
⊕3x6	(3)
lain, ϕ3	(5)
pring, ϕ3	(3)
	(1)
lain, ϕ3	(2)
xternal Tooted Lock, 3	(2)
pring, ϕ3	(3)
	(1)
ug Adaptor	(1)
ug Adaptor	(1)
struction Book	(1)
struction Book	(1)
struction Book	(1)
lyethylene Bag	(1)
lyethylene Bag	(1)
d, Front	(1)
d, Front	(1)
l, Rear	(1)
l, Rear	(1)
ton Box (Silver)	(1)
ton Box (Silver)	(1)
ton Box (Silver)	(1)
ton Box (Black)	(1)

ORDER NO. SD83062518A3

Service Manual

Stereo Integrated Amplifier

SU-3

[PA],[PE]

Areas

[PA] is available in Far East PX.
[PE] is available in European Military.

Please use this manual together with the service manual for Model No. SU-3, Order No. SD82112327C8.

CHANGES

■ REPLACEMENT PARTS LIST

Notes:

(1) Mentioned in this parts list are only those changed in Model No. SU-3 destination [XA] area.
(2) Only silver type is available for this unit, and therefore, parts for black type is not used.
(3) Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
(4) The "Ⓢ" mark is service standard parts and may differ from production parts.

Ref. No.	Change of Part No. SU-3 [XA] → SU-3 [PA], [PE]		Part Name & Description	Pcs/Set	Remarks
CABINET and CHASSIS PARTS					
21	SJA88	RJA52Z	AC Cord	1	⚠ Ⓢ
27	SKUU3X	SKUU3P	Bottom Board Ass'y	1	
ACCESSORIES					
A1	SJP5213-1	SJP9215	Plug, Adaptor	1	⚠
A3	SQF11449	SQF11739	Instruction Book	1	

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SM-SU3MM
SERVICE MANUAL

Technics

Panasonic Tokyo
Matsushita Electric Industrial Co., Ltd.
1-2, 1-chome, Shiba-koen, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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DEUTSCH

Stereo Integrated Amplifier SU-3/SU-3(K)

- This booklet contains the specifications for SU-3, written Germany, French and Spanish.
- File this manual together with the SU-3 service manual (Order No. SD82112327C8).

- Das vorliegende Büchlein enthält die Spezifikationen für SU-3 in deutscher, französischer und spanischer Sprache.
- Bewahren Sie das Büchlein zusammen mit der Bedienungsanleitung für SU-3 (Bestell-Nr. SD82112327C8) auf.

- Cette brochure contient les spécifications pour le SU-3, écrites en allemand, en français et en espagnol.
- Classer ce manuel en même temps qu'avec le manuel de service du SU-3 (N° d'ordre : SD82112327C8).

- Este librito contiene la especificaciones para SU-3, escritos en alemán, francés y español.
- Guardar este manual juntamente con el manual de servicio de SU-3 (Pedido N°. SD82112327C8).

DEUTSCH

■ TECHNISCHE DATEN

(Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 40 Hz ~ 20 kHz	
beide Kanäle ausgesteuert	2 × 18W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 20W (8 Ω)
Gesamtklirrfaktor	
Nennleistung bei 40 Hz ~ 20 kHz	0,8% (8 Ω)
Nennleistung bei 1 kHz	0,8% (8 Ω)
halbe Nennleistung bei 40 Hz ~ 20 kHz	0,3% (8 Ω)
halbe Nennleistung bei 1 kHz	0,07% (8 Ω)
−26 dB Leistung bei 1 kHz	0,2% (8 Ω)
50 mW Leistung bei 1 kHz	0,2% (8 Ω)
Intermodulationsfaktor	
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,8%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	10 Hz ~ 25 kHz (8 Ω)
Restbrumm und Geräusch	0,5 mV
Dämpfungsfaktor	27 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
Tuner, Aux	150 mV/22 kΩ
Tape 1 Aufnahme/Wiedergabe (TAPE 1 REC/PLAY)	150 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	150 mV
Geräuschabstand	
Nennleistung (8 Ω)	
Phono	68 dB (nach IHF, A: 72 dB)
Tuner, Aux, Tape	92 dB (nach IHF, A: 97 dB)
−26 dB Leistung (8 Ω)	
Phono	67 dB
Tuner, Aux, Tape	69 dB
50 mW Leistung (8 Ω)	
Phono	67 dB
Tuner, Aux, Tape	69 dB
Frequenzgang	
Phono	RIAA-Standardkurve ±0,8 dB (30 Hz ~ 15 kHz)
Tuner, Aux, Tape	10 Hz ~ 60 kHz (−3 dB)
Klangregler	
Baßregler (BASS)	50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ −10 dB
Ausgangsspannung und -impedanz	
Aufnahmeausgang (REC OUT)	150 mV
Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)	±1,0 dB
Übersprechdämpfung (Aux, 1 kHz)	45 dB
Kopfhörerpegel und -impedanz	360 mV/270 Ω
Lautsprecherimpedanz	
MAIN	8 Ω ~ 16 Ω

■ ALLGEMEINE DATEN

Leistungsaufnahme	93 W
Netzspannung	Wechselstrom 50 Hz/60 Hz, 220V (Für Kontinentaleuropa) Wechselstrom 50 Hz/60 Hz, 110V/120V/220V/240V
Abmessungen (B×H×T)	315 × 50 × 248 mm
Gewicht	3,1 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

FRANÇAIS

■ CARACTERISTIQUES

(Sujet á changement sans préaris.)

(DIN 45 500)

■ SECTION AMPLIFICATEUR

Puissance de sortie continue de 40 Hz~20 kHz, les deux canaux en circuit	2 × 18W (8Ω)
Puissance de sortie continue à 1 kHz les deux canaux en circuit	2 × 20W (8Ω)
Distorsion harmonique totale	
à puissance nominale (40 Hz~20 kHz)	0,8% (8Ω)
à puissance nominale (1 kHz)	0,8% (8Ω)
à demi-puissance (40 Hz~20 kHz)	0,3% (8Ω)
à demi-puissance (1 kHz)	0,07% (8Ω)
puissance de −26 dB à 1 kHz	0,2% (8Ω)
puissance de 50 mW à 1 kHz	0,2% (8Ω)
Distorsion d'intermodulation à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,8%
Réponse de fréquences les deux canaux en circuit, −3 dB	10 Hz~25 kHz (8Ω)
Bruit et ronflement résiduels	0,5 mV
Coefficient d'amortissement	27 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
SYNTONISATEUR, AUX (TUNER, AUX)	150 mV/22kΩ
BANDE 1, ENREGISTREMENT/LECTURE (TAPE 1 REC/PLAY)	150 mV/22kΩ
PHONO (tension d'entrée maximum, 1 kHz RMS)	150 mV
Signal/Bruit	
à puissance nominale (8Ω)	
PHONO	68 dB (IHF, A: 72 dB)
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	92 dB (IHF, A: 97 dB)
puissance de −26 dB (8Ω)	
PHONO	67 dB
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	69 dB
puissance de 50 mW (8Ω)	
PHONO	67 dB
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	69 dB
Réponse de fréquence	
PHONO	Courbe nominale RIAA ±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	10 Hz~60 kHz (−3 dB)
Réglage de la tonalité	
BASSES (BASS)	50 Hz, +10 dB~ −10 dB
AIGUS (TREBLE)	20 kHz, +10 dB~ −10 dB
Tension de sortie et impédance	
SORTIE ENREGISTREMENT (REC OUT)	150 mV
Equilibrage des canaux, AUX 250 Hz~6 300 Hz	±1,0 dB
Séparation des canaux, AUX 1 kHz	45 dB
Niveau de sortie des casques et impédance	360 mV/270Ω
Impédance de charge	
PRINCIPALE (MAIN)	8Ω~16Ω

■ DIVERS

Consommation	93W
Alimentation	CA 50 Hz/60 Hz, 220V (Pour l'Europe) CA 50 Hz/60 Hz, 110V/120V/220V/240V (Autres)
Dimensions (L×H×Pr)	315 × 50 × 248 mm
Poids	3,1 kg

Remarque:
On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système H.P. 3045).

ESPAÑOL

■ ESPECIFICACIONES

(Estas especificaciones están sujetas a cualquier cambio sin previo eviso.)

(DIN 45 500)

■ SECCION AMPLIFICADOR

Potencia continua de 40 Hz~20 kHz en ambos canales	2 × 18W (8Ω)
Potencia continua de 1 kHz en ambos canales	2 × 20W (8Ω)
Distorsión armónica total	
potencia de régimen a 40 Hz~20 kHz	0,8% (8Ω)
potencia de régimen a 1 kHz	0,8% (8Ω)
mitad de potencia a 40 Hz~20 kHz	0,3% (8Ω)
mitad de potencia a 1 kHz	0,07% (8Ω)
−26 dB de potencia a 1 kHz	0,2% (8Ω)
50 mW de potencia a 1 kHz	0,2% (8Ω)
Distorsión por intermodulación potencia de régimen a 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,8%
Ancho de banda de potencia con ambos canales, −3 dB	10 Hz~25 kHz (8Ω)
Zumbido residual y ruido	0,5 mV
Factor de amortiguamiento	27 (8Ω)
Sensibilidad e impedancia de entrada	
TOCADISC. (PHONO)	2,5 mV/47kΩ
SINTON., AUX. (TUNER, AUX)	150 mV/22kΩ
GRAB. 1 GRAB./REPR. (TAPE 1 REC/PLAY)	150 mV/22kΩ
Voltaje máximo de entrada de PHONO (1 kHz, RMS)	150 mV
Relación de señal a ruido	
potencia de régimen (8Ω)	
TOCADISC. (PHONO)	68 dB (IHF, A: 72 dB)
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	92 dB (IHF, A: 97 dB)
−26 dB de potencia (8Ω)	
TOCADISC. (PHONO)	67 dB
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	69 dB
50 mW de potencia (8Ω)	
TOCADISC. (PHONO)	67 dB
SINTON, AUX., GRAB. (TUNER, AUX, TAPE)	69 dB
Respuesta de frecuencia	
TOCADISC. (PHONO)	curva RIAA estándar ±0,8 dB (30 Hz~15 kHz)
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	10 Hz~60 kHz (−3 dB)
Controles de tono	
BAJOS (BASS)	50 Hz, +10 dB~ −10 dB
AGUDOS (TREBLE)	20 kHz, +10 dB~ −10 dB
Voltaje e impedancia de salida	
SAL. GRAB. (REC OUT)	150 mV
Equilibrio de canales, AUX 250 Hz~6 300 Hz	±1,0 dB
Separación de canales, AUX 1 kHz	45 dB
Impedancia y nivel de salida de los auriculares	360 mV/270Ω
Impedancia de carga	
MAIN	8Ω~16Ω

■ GENERAL

Consumo de energía	93W
Alimentacioân de energía	CA 50 Hz/60 Hz, 220V (Para Europa continental) CA 50 Hz/60 Hz, 110V/120V/220V/240V (Para otros paises)
Dimensiones (An.×Al.×Prof.)	315 × 50 × 248 mm
Peso	3,1 kg

Nota:
La distorsión armónica total se mide con el analizador de espectro digital (sistema H.P. 3045).

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